

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the present application.

Listing of Claims:

Claims 1-10 (canceled)

Claim 11 (previously presented): A method of qualitatively transforming a diamond-like carbon (DLC hereafter) film to create a distributed refractive index structure within the DLC film, the method comprising the steps of:

adhering a mask to a top surface of the DLC film, the mask including a transcription of the distributed refractive index structure; and

irradiating the mask and the DLC film, with either a particle beam or an energy beam, such that first selected regions of the DLC film receive said radiation, and second selected regions of the DLC film are blocked by the mask from receiving said radiation, said radiation effective to raise a refractive index of the first selected regions such that the distributed refractive index structure is created within the DLC film.

Claim 12 (previously presented): The DLC film-transforming method as set forth in claim 11, wherein:

said particle beam is one selected from the group consisting of an ion beam, an electron beam, a proton beam, α -rays, or a neutron beam; and

said energy beam is one selected from the group consisting of light rays, X-rays or γ -rays.

Claims 13-21 (canceled)

Claim 22 (previously presented): The DLC film-transforming method as set forth in claim 11, wherein the qualitative transformation is carried out on one selected from the group consisting of a hydrogen-containing DLC film; a nitrogen-containing DLC film; and a non-hydrogen-containing, non-nitrogen-containing DLC film.

Claim 23 (previously presented): The DLC film-transforming method as set forth in claim 11, wherein the qualitative transformation is carried out on a DLC film having, with respect to light having a wavelength within a range of from 550 nm to 650 nm, a refractive index smaller than 1.6 and an extinction coefficient smaller than 1×10^{-3} .

Claim 24 (previously presented): The DLC film-transforming method as set forth in claim 11, wherein the DLC film is irradiated with either the particle beam or the energy beam at a bias with respect to the film's thickness, whereby the distributed refractive index structure is created sloping with respect to the film's thickness.

Claims 25-27 (canceled)

Claim 28 (previously presented): The DLC film characterized by having a distributed refractive index pattern, the DLC film including a plurality of qualitatively transformed regions in which the refractive indices are changed, the DLC film created by a film-transforming method as set forth in claim 11.

Claim 29 (previously presented): The DLC film characterized by having a distributed refractive index pattern, the DLC film including a plurality of qualitatively transformed regions in which the refractive indices are changed, the DLC film created by a film-transforming method as set forth in claim 12.

Claim 30 (previously presented): The DLC film characterized by having a distributed refractive index pattern, the DLC film including a plurality of qualitatively transformed regions in which the refractive indices are changed, the DLC film created by a film-transforming method as set forth in claim 22.

Claim 31 (previously presented): The DLC film characterized by having a distributed refractive index pattern created by a film-transforming method as set forth in claim 23.

Claim 32 (previously presented): The DLC film characterized by having a distributed refractive index pattern created by a film-transforming method as set forth in claim 24.

Claim 33 (previously presented): A method of qualitatively transforming a DLC film, the method comprising the step of radiating with either a particle beam or an energy beam at least one region of the DLC film to raise the refractive index of that region to form a distributed refractive index within the DLC film; wherein, with respect to light having a wavelength within a range from 550 nm to 650 nm, the DLC film has a refractive index less than 1.6 and an extinction coefficient less than 1×10^{-3} .

Claim 34 (currently amended): A DLC film characterized by having refractive indices distributed in a pattern oriented within the plane of the film, wherein, with respect to light having a wavelength within a range from 550 nm ~~550 nm~~ to 650 nm, the DLC film has a refractive index less than 1.6 and an extinction coefficient less than 1×10^{-3} .

Claims 35-36 (canceled)